

CLAIMS

1. Flowmeter comprising a fluid inlet including an adaptor, an upper fluid inlet body including a fluid inlet tube, a flow detector including a vertical conical tube including a ball and a fluid circulation tube, and a lower body arranged for enabling the fluid to exit through it, an adjuster for the fluid flow,
5 a fluid outlet tube, the upper fluid inlet body being fixed to the lower fluid outlet body, the upper body including a cast single piece assembly in which an inlet tube, a flow measurement tube communicating with the inlet tube and a fluid circulation tube, the tubes being formed and arranged for enabling fluid to communicate through one end with the measurement tube and
10 through the other end with a flow adjuster leading towards the outlet tube.
2. Adjustment installation for fluid distribution flow according to claim 1, wherein the disk comprises a single continuous cut out around an angular sector having a circular axis of symmetry, the width of the cut out varying gradually with the angle of the radius of intersection of the cut out.
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3. Flowmeter according to claim 1, wherein the flow adjuster includes a disk arranged to be rotatably driven, the disk including holes arranged so at least one hole always faces the outlet tube, regardless of the position of the disk, to enable fluid distribution without any risk of interruption even during the flow adjustment, at least one of the diameter of the hole(s) and the density of the holes facing the outlet tube being arranged to provide gradual adjustment of the flow in response to turning of the disk.
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- 25 4. Flowmeter according to claim 1, wherein the upper fluid inlet body base has dimensions that are the same as the dimensions of the lower fluid outlet body, the upper fluid inlet body being fixed to the lower body by screws at its four corners, by gluing, by welding or by clipping.

5. Flowmeter according to claim 1 wherein the fluid inlet tube is substantially perpendicular to the flow measurement tube including the ball.

5 6. Flowmeter according to claim 1 wherein the flow measurement tube including the ball is slightly conical.

10 7. Flowmeter according to claim 1 wherein the flow measurement tube including the ball includes a transparent graduated wall on at least one portion, the wall being arranged so a user can see the ball and read the resulting flow.

15 8. Flowmeter according to claim 1, wherein the flow measurement tube and the fluid circulation tube have parallel longitudinal axes.

15 9. Flowmeter according to claim 1, wherein the fluid circulation tube is slightly conical.

20 10. Flowmeter according to claim 3, wherein the holes are perforated in the disk.

25 11. Flowmeter according to claim 3 wherein the disk includes at least two concentric rows of holes with precise dimensions, the holes in each row being arranged to be offset from the holes in the other row and being at a regular angular spacing, the diameter of the holes encountered in sequence in a given rotation direction varying gradually for each successive hole belonging to two different rows and adjacent along the angular direction, the spacing between successive holes in two rows being less than the diameters

of the fluid inlet and outlet tubes in the body, the fluid outlet or inlet tube facing several holes in the disk to enable gradual flow adjustment without any risk of interrupting the fluid flow in response to turning of the disk.

5 12. Flowmeter according to claim 3, further including a knob for turning in the body fixed in rotation with the disk so that the knob can be turned to adjust the flow, the holes in the knob enabling fluid circulation as far as the precision holes in the fluid flow adjustment disk.

10 13. Flowmeter according to claim 1, wherein a hole in a lower part of the body forms the fluid outlet hole, the diameter of the outlet hole being greater than the spacing between at least two holes in the same row in the disk to assure that the outlet tube is always facing three holes in the disk.

15 14. Flowmeter according to claim 12 further including O-rings arranged in grooves in the periphery of the cylindrical surface of the knob, and on the internal peripheral surface of a skirt of the knob and the lower and upper parts of the body including the inlet tube and the outlet tube respectively, and a seal between the disk and the outlet tube in a larger diameter hole than the fluid outlet tube.

20 15. Flowmeter according to claim 8, wherein the knob is knurled on its external periphery and projects on at least one face of the body so that it can be turned manually.

25 16. Flowmeter according to claim 12 wherein the body includes two pieces of moulded plastic material, at least partially enclosing the knob and the disk.

17. Flowmeter according to claim 8, wherein the diameter of the disk is smaller than the diameter of the knob.

5 18. Flowmeter according to claim 13, wherein the orifices facing the disk face at least three of the holes.